Amendments to the Specification

Please add the following "Related Applications" paragraph after the Title at page 1, line 5 of the English-language translation of the specification:

RELATED APPLICATIONS

This application is the U.S. National stage of International Application No. PCT/JP03/03846, filed March 27, 2003, designating the United States, published in Japanese, and claims priority under 35 U.S.C. § 119 or 365 to Japan Patent Application No. 2002-094772, filed March 29, 2002 and Japan Patent Application No. 2002-201344, filed July 10, 2002. The entire teachings of the above applications are incorporated herein by reference.

Please replace the paragraph at page 7, lines 11 through 21 of the English-language translation of the specification with the following amended paragraph:

[20] the method of [18], which comprises the steps of:

(a) providing a cDNA sample prepared from a subject, and a board on which a nucleotide probe that hybridizes with a DNA encoding the ~~polypeptide of [5]~~ polypeptide of [6] is immobilized;

(b) contacting the cDNA sample with the board;

(c) measuring the expression level of a gene encoding the ~~polypeptide of [5]~~ polypeptide of [6] comprised in the cDNA sample by detecting the intensity of hybridization between the cDNA sample and the nucleotide probe immobilized on the board; and

(d) comparing the measured expression level of the gene encoding the polypeptide of [6] with that in a control;

Please replace the paragraph at page 54, lines 12 through 22 of the English-language translation of the specification with the following amended paragraph:

Fig. 16 shows two photographs of the results of transfection of C1Gal-T3 into COS-1 cells. These photographs show the results of SDS-PAGE of C1Gal-T3, which was purified from the culture supernatant of COS-1 cells transfected with pFLAG-CMV3-C1Gal-T3 using M1 agarose to which anti-FLAG antibodies were bound. A 12.5% acrylamide gel and HRP-anti-FLAG antibodies diluted 1000 times were used. The explanations of each lane 1 to 5 are shown below the photographs. The upper photograph ~~on the left~~ shows the results of Western

blotting with anti-FLAG antibody. The lower photograph ~~on the right~~ shows the results of Coomassie ~~Coumassie~~ staining.

Please replace the paragraph at page 54, line 23 through page 55, line 10 of the English-language translation of the specification with the following amended paragraph:

Fig. 17 shows the results of HPLC analysis for core 1 synthesis activity of COS-1-C1Gal-T3 transfectants on GalNAc-peptide. ~~In the graphs, HP indicates a synthetic peptide that mimics the amino acid sequence of the IgA1 hinge site, and the numbers such as 4 and 7 indicate the locations of amino acids to which GalNAc is added. For example, 4-GalNAc-HP represents an IgA1 hinge peptide in which GalNAc is added to the fourth amino acid from the N terminus. However, 5xGalNAc-HP represents a peptide in which GalNAcs are bound to all five locations: 4, 7, 9, 11, and 15.~~ Starting from the top and moving down, the results are those when using the following enzyme sources: C1Gal-T3 purified using FLAG tag from the culture supernatant of COS-1-pFLAG-CMV3-C1Gal-T3 transfectants, a fraction purified with Flag tag from the culture supernatant of COS-1-pFLAG-CMV3 transfectant (the mock vector-only transfectant), cell extract of cell line LSB comprising core 1 synthesis activity (positive control), and cell extract of cell line LSC not comprising core 1 synthesis activity (negative control). Fluorescent-labeled GalNAc-Ser was used as the receptor. The graphs on the right side represent controls whereby the enzyme reactions were carried out without adding donor substrates. In the graphs peak S represents the acceptor substrate peak, while peak P represents the product peak detected as a result of the enzyme reaction.

Please replace the paragraph at page 55, lines 11 through 15 of the English-language translation of the specification with the following amended paragraph:

Fig. 18 shows the results of HPLC analyses, the enzyme source for all of which was C1Gal-T3 purified with FLAG tag from the culture supernatant of COS-1-pFLAG-CMV3-C1Gal-T3 transfectant. The acceptor substrates are shown to the left of the chromatograms. In the graphs, HP indicates a synthetic peptide that mimics the amino acid sequence of the IgA1 hinge site, and the numbers such as 4 and 7 indicate the locations of amino acids to which GalNAc is added. For example, 4-GalNAc-HP represents an IgA1 hinge peptide in which GalNAc is added to the fourth amino acid from the N terminus. However, 5xGalNAc-HP represents a peptide in which GalNAcs are bound to all five locations: 4, 7, 9, 11, and 15.

Please replace the paragraph at page 61, lines 3 through 6 of the English-language translation of the specification with the following amended paragraph:

The results showed that the LSC-C1Gal-T2 cell extract reacted strongly to pNp-α-GalNAc, but did not react to pNp-β-GalNAc. Thus, C1Gal-T2 was suggested to be a synthetase of ~~galactose β1-3 acetylgalactosaminyl α1-R~~ galactose β1-3-N-acetylgalactosaminyl α1-R (Fig. 3).

Please replace the paragraph at page 61, line 19 through page 62, line 15 of the English-language translation of the specification with the following amended paragraph:

Peptides were synthesized in which a single GalNAc was introduced into the -OH group of the 4th, 7th, 9th, 11th or 15th S or T residue of the peptide sequence HP (VPSTPPTPSPSTPPTPSPS/ SEQ ID NO: 7), which is in the hinge region of human IgA1. An additional peptide was synthesized whereby ~~GalNA~~ GalNAc was introduced into each of the -OH groups of the 4th, 7th, 9th, 11th and 15th S or T residues (Peptide Institute). The synthesized peptides were named 4-GalNAc-HP (VPST(GalNAc)PPTPSPSTPPTPSPS), 7-GalNAc-HP (VPSTPPT(GalNAc)PSPSTPPTPSPS), 9-GalNAc-HP (VPSTPPTPS(GalNAc)PSTPPTPSPS), 11-GalNAc-HP (VPSTPPTPSPS(GalNAc)TPPTPSPS), 15-GalNAc-HP (VPSTPPTPSPSTPPT(GalNAc)PSPS), and 4,7,9,11,15-GalNAc-HP (VPST(GalNAc)PPT(GalNAc)PS(GalNAc)PS(GalNAc)TPPT(GalNAc)PSPS). Each type of GalNAc-HP serving as an acceptor substrate was dissolved in H_2O, mixed with Cy5 in dimethylformamide to a molar ratio of 1:10, and then subjected to an overnight Cy5-labeling reaction at 4°C. The reaction solution was purified by high-performance liquid chromatography (HPLC). Specifically, CAPCELL PAK C_{18} UG120 (Shiseido) was used as the column, 0.1% trifluoroacetic acid was used as the separation buffer, the elution was carried out over a 15-30% acetonitrile concentration gradient, the flow rate was 1 ml/minute, and the conditions detected were excitation wavelength at 649 nm and fluorescence wavelength at 670 nm. Using the fluorescence of Cy5 as an indicator, substrates were separated as single substrate peaks at the retention times of 35.2, 34.4, 35.1, 34.9, 34.6, and 31.1 minutes for each type of Cy5-labeled GalNAc-HP (4-GalNAc-HP-Cy5, 7-GalNAc-HP-Cy5, 9-GalNAc-HP-Cy5, 11-GalNAc-HP-Cy5, 15-GalNAc-HP-Cy5, and 4,7,9,11,15-

GalNAc-HP-Cy5 respectively). The separated substrates were concentrated by freeze-drying. The substrates prepared in this manner were named 4-GalNAc-HP-Cy5, 7-GalNAc-HP-Cy5, 9-GalNAc-HP-Cy5, 11-GalNAc-HP-Cy5, 15-GalNAc-HP-Cy5, and 4,7,9,11,15-GalNAc-HP-Cy5.